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- L1: (86183) "455"/\$.ccls.
- L2: (2637) 1 and (antenna near3 diversity)
- L3: (768) 2 and (antenna near3 switch)
- L4: (5) 3 and (switch\$3 near8 "packet error rate")
- L5: (197) (antenna near3 diversity) and "packet error rate"
- L6: (8) 5 and (switch\$3 near8 "packet error rate")
- L7: (1) 6 and counter
- L8: (3) 6 and timer
- L9: (3) 6 and (error near3 detect\$3)
- L10: (2) 9 and threshold
- L11: (2) 6 and CRC
- L12: (58) 5 and CRC
- L13: (16) 5 and CRC
- L14: (2) 13 and (switch\$3 same "packet error rate")

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DBs US-PGPUB: USPAT: EPO

Default operator: OR

Blurs Highlight all hit terms initially

13 and (switch\$3 same "packet error rate")

BRS form IS&R form Image Text HTML

	U	I	Document ID	Issue Date	Pages	Title	Current OR	Current	Ret	Inventor
1	<input type="checkbox"/>	<input type="checkbox"/>	US 7050402 B2	20060523	36	Wireless communications with frequency band selection	370/252			Schmidl; Timothy M. et al.
2	<input type="checkbox"/>	<input checked="" type="checkbox"/>	US 6839325 B2	20050104	35	Wireless communication system which uses ARQ pack	370/242	714/750		Schmidl; Timothy M. et al.

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- L9: (3) 6 and (error near3 detect\$3)
- L10: (2) 9 and threshold
- L11: (2) 6 and CRC
- L12: (58) 5 and CRC
- L13: (16) 5 and CRC
- L14: (2) 13 and (switch\$3 same "packet error rate")
- L15: (5) 13 and counter
- L16: (2) 15 and timer

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DBs US-PGPUB; USPAT; EPO ☒ Plurals

Default operator: OR ☒ Highlight all hit terms initially

15 and timer

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	U	1	Document ID	Issue Date	Pages	Title	Current OR	Current	Ret	Inventor
1	<input type="checkbox"/>	<input type="checkbox"/>	US 7054296 B1	20060530	457	Wireless local area network (WLAN) technology and appli	370/338	370/480; 375/222		Sorrells; David F. et al.
2	<input type="checkbox"/>	<input checked="" type="checkbox"/>	US 6088337 A	20000711	50	Method access point device and peripheral for providing s	370/280	714/758		Eastmond; Bruce Charles et al.

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- L8: (3) 6 and timer
- L9: (3) 6 and (error near3 detect\$3)
- L10: (2) 9 and threshold

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DBs US-PG-PUB:USPAT:EP0

Default operator: OR

☒ Bards

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5 and (switch\$3 near8 "packet error rate")

☒ BRS form
 ☒ IS&P form
 ☒ Image
 ☒ Text
 ☒ HTML


	U	1	Document ID	Issue Date	Pages	Title	Current OR	Current Ret	Inventor
4	<input type="checkbox"/>	<input checked="" type="checkbox"/>	US 20030129978 A1	20030710	47	Communication system, communication terminal and c	455/426.1	455/402	Akiyama, Keiji et al.
5	<input type="checkbox"/>	<input checked="" type="checkbox"/>	US 20020107052 A1	20020808	9	Antenna apparatus for digital cameras incorporating wideba	455/566	455/101; 455/277.1;	Carlson, Grant B.
6	<input type="checkbox"/>	<input checked="" type="checkbox"/>	US 6985714 B2	20060110	45	Communication system, communication terminal and c	455/402	455/426.1; 455/445;	Akiyama, Keiji et al.
7	<input type="checkbox"/>	<input checked="" type="checkbox"/>	US 6741293 B1	20040525	16	Digital and analog broadcast receiver, and digital and analo	348/554	348/555; 348/731;	Obuchi, Masashi
8	<input type="checkbox"/>	<input checked="" type="checkbox"/>	US 6694151 B2	20040217	8	Antenna apparatus for digital cameras incorporating wideba	455/556.1	348/14.02; 348/552;	Carlson, Grant B.

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 - 🔍 **L10: (2) 9 and threshold**
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- 🗑 Trash

		CLASSIFICATION UNCLASSIFIED	
45 United States Patent Office		PATENT NO. 5,741,293 B1 DATE OF PATENT: 11/25, 2004	
(35) DIGITAL AND ANALOG BROADCAST RECEIVER AND DIGITAL AND ANALOG BROADCAST RECEIPTER AND ANALOG METHOD			
(37) Inventor: Masahito Okada, Tokyo (JP)			
(73) Assignee: Tokyo Shoko Kaisha Limited, Tokyo, Japan (JP)			
(*) Name: Subject to be examined, for those of the present is intended to obtain under a U.S. Utility or a P. app.			
(52) Int. Cl. No. H04N 01/00 (2006.01)			
(51) Field: May 19, 2003			
(54) Portable Application Priority Date			
May 19, 2001 JP 2001-164222-1 (14-00000)			
(57) Int. Cl. No. H04N 01/00 (2006.01)			
(58) Class. No. H04N 01/00 (2006.01)			
(59) Field of Search: 345/705, 345/710, 345/715, 345/720, 345/725, 345/730, 345/735, 345/740, 345/745, 345/750, 345/755, 345/760, 345/765, 345/770, 345/775, 345/780, 345/785, 345/790, 345/795, 345/800, 345/805, 345/810, 345/815, 345/820, 345/825, 345/830, 345/835, 345/840, 345/845, 345/850, 345/855, 345/860, 345/865, 345/870, 345/875, 345/880, 345/885, 345/890, 345/895, 345/900, 345/905, 345/910, 345/915, 345/920, 345/925, 345/930, 345/935, 345/940, 345/945, 345/950, 345/955, 345/960, 345/965, 345/970, 345/975, 345/980, 345/985, 345/990, 345/995			
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	U	I	Document ID	Issue Date	Pages	Title	Current OR	Current	Ref	Inventor
1	<input type="checkbox"/>	<input type="checkbox"/>	US 20040147289 A1	20040729	18	Antenna diversity based on packet errors	455/562.1	455/101		Paljug, Michael J. et al.
2	<input type="checkbox"/>	<input checked="" type="checkbox"/>	US 6741293 B1	20040525	16	Digital and analog broadcast receiver, and digital and analog	348/554	348/555; 348/731;		Obuchi, Masashi

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	U	1	Document ID	Issue Date	Pages	Title	Current OR	Current	Ret	Inventor
1	<input type="checkbox"/>	<input type="checkbox"/>	US 20050245298 A1	20051103	29	Receiving apparatus and receiving method, and progra	455/575.7	455/132; 455/272;		Mori, Nobuyuki
2	<input type="checkbox"/>	<input type="checkbox"/>	US 20040147289 A1	20040729	18	Antenna diversity based on packet errors	455/562.1	455/101		Paljug, Michael J. et al.
3	<input type="checkbox"/>	<input checked="" type="checkbox"/>	US 6741293 B1	20040525	16	Digital and analog broadcast receiver, and digital and analo	348/554	348/555; 348/731;		Obuchi, Masashi



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United States

Patent Application Publication (35) Pub. No.: US 2004/0147289 A1

Paljug et al.

(37) Pub. Date: Jul. 29, 2004

(54) ANTENNA DIVERSITY BASED ON PACKET

ERRORS

Publication Classification

(01) Int. Cl.⁷ H04B 1/02

(02) U.S. Cl. 455/562.1

(70) Inventor: Michael J. Paljug, Palo Alto, CA (US)

Filing Date: Feb. 13, 2003

Correspondence Address:

GARY R. STANFORD

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AUSTIN, TX 78705-4799

(21) Appl. No.: 10473,438

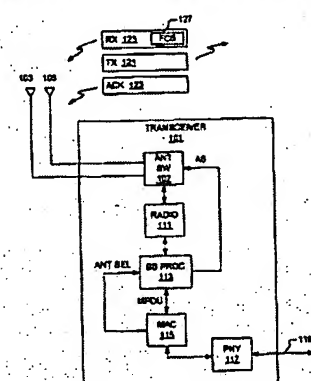
(22) Filed: Apr. 24, 2003

Related U.S. Application Data

(63) Provisional application No. 09/445,076, filed on Jan. 29, 2002, Provisional application No. 09/445,077, filed on Jan. 29, 2002.

ABSTRACT

A wireless transceiver including multiple antennas, an antenna switch, and a packet error counter that controls the antenna switch for determining when to switch to another antenna based on packet error rate (PER). Instead of switching the antenna on a packet-by-packet basis, control switches a switch after several more packet errors have occurred. The PER is used to identify packet errors. A timer is used to determine when packet errors occur on subsequent packets is not received or lost. A packet of interest is selected from among multiple antennas including packet errors, comparing a packet error count with a threshold value to determine a threshold condition, switching to a different antenna if the threshold condition is met, and repeating the packet error count when the threshold condition is met.



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1	□	US 20040147289 A1	20040729	18	Antenna diversity based on packet errors	455/562.1	455/101	Paljug, Michael J. et al.

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